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A. Raymond & Cie
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Device for Fixing an Adapter for an add-on piece to a Condenser

The invention concerns a device for fixing an adapter for an add-on piece to a condenser as recited in the preamble to Claim 1.

Such a device is known from EP 0 401 500 A1. In the prior device, U-shaped side parts provided with L-shaped brackets are present as supporting piece and opposite piece, and comprise a number of facing, wedge-shaped protrusions and a locking arrangement for connecting the brackets. The side parts embrace outer edge faces of a condenser.

Known for example from US A 5,107,688 is a device for fixing an adapter for an add-on piece to coolant conduits of a condenser on the back of a refrigerator. This device engages latchingly in mutually opposite coolant conduits. However, the use of this device is limited to condensers that are round in cross section and have coolant conduits at least portions of which are exposed for latching the device.

The object of the invention is to create a device that can be fixed stably in the central region of a condenser comprising lamellae that are deformable between coolant conduits.

This object is achieved according to the invention, in a device of the aforesaid kind, by means of the characterizing features of Claim 1.

Particularly good self-securing is achieved thereby, with comparatively little lever action in the region of the transverse portions but adequate stabilization in the region of the edge portions.

In a development of the inventive device, advantageously implemented as protrusions on the transverse portions are inner lugs with flat faces oriented parallel to the longitudinal direction of the transverse portion concerned. In this way the displacement of the lamellae occurs primarily in the longitudinal direction of the transverse portions, with the result that the forces necessary to effect engagement are relatively slight.

In a continuation of the aforesaid development, to achieve uniform engagement behavior it is advantageously provided that the inner lugs are implemented with a wedge-shaped conformation that is symmetrical with respect to a center line.

In the aforesaid advantageous configuration, in a further improvement supplementary or alternative to the foregoing continuation, advantageously implemented as protrusions on edge portions are outer lugs with flat faces oriented parallel to the longitudinal direction of the edge portion concerned. In this way the displacement of the lamellae occurs primarily in the longitudinal direction of the edge portions, with the result that here, too, the forces necessary to effect engagement are relatively slight.

In the latter improvement, for effective self-clamping to the condenser, in one embodiment a number of outer lugs are configured with a planar, beveled operative face.

In a continuation of the latter embodiment, it is advantageously provided that a number of outer lugs are each configured with an angular, wedge-shaped beveled operative face, which, when the adapter-supporting piece and the opposite piece are connected to each other, is disposed opposite an assigned outer lug having a planar beveled operative face. This enables the outer lugs to extend well into the condenser, thus procuring more secure retention of the adapter-supporting piece and the opposite piece on the condenser.

In a further advantageous improvement of the inventive device, it is provided that the locking arrangement comprises at least one locking tongue and at least one tongue receptacle, a locking

tongue being insertable in an associated tongue receptacle and there being implemented on the tongue receptacle an immobilizing part with which a detent lug implemented on the locking tongue comes into engagement when the locking tongue is inserted in the tongue receptacle. This procures a simple, reliable connection between the adapter-supporting piece and the opposite piece.

In an improvement of the aforesaid configuration, the tongue receptacle comprises an unlocking recess through which a tool for releasing the engagement between a locking tongue and the associated immobilizing part can be passed. The connection between the adapter-supporting piece and the opposite piece can thus be released relatively easily as needed.

In a further advantageous improvement of the inventive device, it is provided that in the assembled arrangement of the adapter-supporting piece and the opposite piece, the adapter for the add-on piece has the use of a support face extending across a receiving space configured between the adapter-supporting piece and the opposite piece, and the opposite piece has the use of at least two support webs disposed on either side of the adapter for the add-on piece when the adapter-supporting piece and the opposite piece are in their assembled arrangement and whose respective single faces confronting the receiving space lie in the plane of the support face of the adapter for the add-on piece. In this way, the device, when arranged as intended, bears against an operative face of the condenser over a comparatively extensive region of contact comprising the support face of the adapter for the add-on piece and the face of each support web that confronts the receiving space, thereby stabilizing the engagement of the protrusions with the lamellae.

An exemplary embodiment of an inventive device is described below with reference to the figures, in which

CLAIMS

1. A device for fixing an adapter for an add-on piece to a condenser provided with lamellae that are deformable between coolant conduits, comprising an adapter-supporting piece (2) that is provided with said adapter (3) for an add-on piece and comprising an opposite piece (5), said adapter-supporting piece (2) and said opposite piece (5) being provided with a number of facing, wedge-shaped protrusions (11, 13, 17, 21) and there being implemented on said adapter-supporting piece (2) and on said opposite piece (5) a locking arrangement (6) for connecting said adapter-supporting piece (2) and said opposite piece (5) to each other, **characterized in that** said adapter-supporting piece (2) and said opposite piece (5) each have a U-shaped conformation comprising two lateral edge portions (16, 20) and a transverse portion (15, 19) extending between said edge portions (16, 20), said protrusions (11, 13, 17, 21) being disposed opposite one another in pairs on said edge portions (16, 20) and said transverse portions (15, 19) of said adapter-supporting piece (2) and said opposite piece (5).

2. The device as recited in claim 1, characterized in that implemented as protrusions on said transverse portions (15, 19) are inner lugs (17, 21) with flat faces oriented parallel to the longitudinal direction of the transverse portion (15, 19) concerned.

3. The device as recited in claim 2, characterized in that said inner lugs (17, 21) are implemented with a wedge-shaped conformation that is symmetrical with respect to a center line.

4. The device as recited in claims 1 to 3, characterized in that implemented as protrusions on edge portions (16, 20) are outer lugs (11, 13) with flat faces oriented parallel to the longitudinal direction of the edge portion (16, 20) concerned.

5. The device as recited in claim 4, characterized in that a number of outer lugs (11) are configured with a planar, beveled operative face (10).

6. The device as recited in claim 5, characterized in that a number of outer lugs (13) are each configured with an angular operative face (12) beveled in a wedge shape, each of which, when said adapter-supporting piece (2) and said opposite piece (5) are connected to each other, is disposed opposite an assigned outer lug (11) having a planar, beveled operative face (10).

7. The device as recited in one of claims 1 to 6, characterized in that said locking arrangement (6) comprises at least one locking tongue (7) and at least one tongue receptacle (8), a locking tongue (7) being insertable in an associated tongue receptacle (8) and there being implemented on said tongue receptacle (8) an immobilizing part (25) with which a detent lug (18) implemented on said locking tongue (7) comes into engagement when said locking tongue (7) is inserted in said tongue receptacle (8).

8. The device as recited in claim 72, characterized in that said tongue receptacle (8) comprises an unlocking recess (9) through which a tool for releasing the engagement between a locking tongue (7) and the associated immobilizing part (25) can be passed.

9. The device as recited in one of claims 1 to 8, characterized in that in the assembled arrangement of said adapter-supporting piece (2) and said opposite piece (5), said adapter (3) for an add-on piece has the use of a support face extending across a receiving space (14) configured between said adapter-supporting piece (2) and said opposite piece (5), and in that said opposite piece (5) has the use of at least two support webs (23) disposed on either side of said adapter (3) for an add-on piece in the assembled arrangement of said adapter-supporting piece (2) and said opposite piece (5), and whose respective single faces confronting said receiving space (14) lie in the plane of the support face of said adapter (3) for an add-on piece.